

Remarks

Reconsideration of this application as amended is respectfully requested.

Claims 30-52 stand rejected under 35 U.S.C. §112, second paragraph.

Claims 30-35 and 47-52 stand rejected under 35 U.S.C. §102(e) as being unpatentable over U.S. Patent Application Publication US 2001/0049686 of Nelson et al. ("Nelson").

Claims 36 and 38-42 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nelson and U.S. Patent no. 3,858,182 of Delagi et al. ("Delagi").

Claim 37 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Nelson and U.S. Patent no. 5,421,014 of Bucher ("Bucher").

Claims 43-46 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nelson and U.S. Patent no. 5,630,128 of Farrell et al. ("Farrell").

The examiner has objected to claim 42 due to a misspelled word. In response, applicant has corrected the spelling of "structures" in claim 42.

The examiner has rejected claims 30-52 under 35 U.S.C. §112, second paragraph, as being indefinite. In response, applicant has amended claims 30-52 to clarify the threads interface layer (TIL) and the native threads interface layer (NTIL).

The examiner has rejected claims 30-52 as being anticipated by Nelson. Applicant respectfully submits that amended claims 30 and 47 are not anticipated by Nelson because Nelson does not disclose a virtual machine having a two tier arrangement for threads support that includes a threads interface layer (TIL) that provides a standard threads interface and that further includes a native threads interface layer (NTIL) that adapts the standard threads interface to an underlying platform as claimed in amended claim. Instead, Nelson discloses programming tools for developing network

management software for Java environments (*Nelson*, Abstract, lines 1-8).

The examiner has stated that

Nelson teaches a two tier arrangement for threads support with the first tier being the Java-to-JDMK layer and the second layer being the native threads interface layer (Fig. 6, 608, 610).

(Page 9, Office Action, 10-19-04).

Applicant respectfully submits that the Java-JDMK layer 610 of *Nelson* is not used for threads support in a virtual machine as claimed in amended claims 30 and 47. Instead, the Java-JDMK layer 610 translates from Java to JDMK (*Nelson*, paragraph 0039 on page 4, lines 3-5) and is part of a JDMK message protocol adapter (MPA) that translates between network management communications protocols (*Nelson*, paragraph 0009). It is submitted that translating network management communications protocols as taught by *Nelson* does not anticipate threads support in a virtual machine as claimed in amended claims 30 and 47.

Applicant further submits that amended claims 30 and 47 are not anticipated by *Nelson* because *Nelson* does not disclose a virtual machine having a threads interface layer (TIL) that provides a standard threads interface for a set of threads associated with an application program executed by the virtual machine such that the standard threads interface does not depend on an underlying platform of the virtual machine as claimed in amended claims 30 and 47. Instead, *Nelson* discloses threads support that does depend on an underlying platform (Solaris) of a virtual machine (*Nelson*, paragraph 0039, lines 15-23). For example, *Nelson* discloses a message protocol adapter (MPA) that enables communication between a management information server and a device agent (*Nelson*, paragraph 0033, lines 8-20) wherein the MPA includes

A Java Native Interface ("JNI") Layer 604 includes a library of C and/or C++ methods configured to define a Java Virtual Machine ("JVM") that provides translation of CMIS to Java.

(*Nelson*, paragraph 0039, lines 15-18)) (emphasis added) and

states that the JNI layer 604

this layer also includes Solaris threads configured to provide additional support when the MPA is running in conjunction with the Solaris operating system (available commercially from Sun Microsystems...).

(Nelson, paragraph 0039, lines 19-22) (emphasis added). In contrast, a virtual machine according to amended claims 30 and 47 includes a standard threads interface that does not depend on the underlying operating system platform of a virtual machine.

In addition, Applicant submits that amended claims 30 and 47 are not anticipated by Nelson because Nelson does not disclose a virtual machine having a native threads interface layer (NTIL) that adapts a threads interface layer (TIL) in the virtual machine to an underlying platform of the virtual machine as claimed in amended claims 30 and 47. This follows from the fact that Nelson does not disclose or suggest a threads interface layer (TIL) in a virtual machine that provides a standard threads interface that does not depend on an underlying platform of the virtual machine as claimed in amended claims 30 and 47.

Given that claims 31-46 and 48-52 depend from amended claims 30 and 47, respectively, it is submitted that 31-46 and 48-52 are not anticipated by Nelson.

Applicant submits that claims 36 and 38-42, which depend from amended claim 30, are not obvious in view of Nelson and Delagi because Nelson and Delagi do not disclose or suggest a virtual machine having a two tier arrangement for threads support that includes a threads interface layer (TIL) that provides a standard threads interface and that further includes a native threads interface layer (NTIL) that adapts the standard threads interface to an underlying platform as claimed in amended claim 30. Appellant has shown that Nelson does not disclose a virtual machine having threads support as claimed in amended claim 30. Delagi discloses multiprogramming hardware support in an underlying platform of a virtual

machine (*Delagi*, col. 4, line 4 through col. 5, line 4) rather than a virtual machine having a two tier arrangement for threads support as claimed in amended claim 30.

Applicant submits that claim 37, which depends from amended claim 30, is not obvious in view of *Nelson* and *Bucher* because *Nelson* and *Bucher* do not disclose or suggest a virtual machine with a two-tier arrangement for threads support as claimed in amended claim 30. Appellant has shown that *Nelson* does not disclose a two-tier arrangement for threads support as claimed in amended claim 30. *Bucher* discloses data structures for storing thread context information (*Bucher*, col. 3, lines 29-35) for bus accesses to peripheral devices (*Bucher*, col. 4, line 66 through col. 5, line 47) rather than a two-tier arrangement for threads support as claimed in amended claim 30.

Applicant submits that claims 43-46, which depend from amended claim 30, are not obvious in view of *Nelson* and *Farrell* because *Nelson* and *Farrell* do not disclose or suggest a virtual machine having a two-tier arrangement for threads support as claimed in amended claim 30. Appellant has shown that *Nelson* does not disclose a virtual machine having a two-tier arrangement for threads support as claimed in amended claim 30. *Farrell* does not disclose or suggest a virtual machine having a two-tier arrangement for threads support that includes a threads interface layer (TIL) that provides a standard threads interface to application programs that does not depend on an underlying platform and that further includes a native threads interface layer (NTIL) that adapts the standard threads interface to an underlying platform as claimed in amended claim 30. Instead, *Farrell* discloses threads support that does depend on underlying platform of a virtual machine (*Farrell*, col. 3, lines 27-49). For example, Figure 1 of *Farrell* shows a set of application-callable threads support routines that are part of an operating system 10, i.e. an underlying platform of a virtual machine.

(Farrell, col. 3, lines 43-46).

It is respectfully submitted that in view of the amendments and arguments set forth above, the applicable objections and rejections have been overcome.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 08-2025 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

Date: 1-19-05

By: Paul H. Horstmann

Paul H. Horstmann
Reg. No.: 36,167